CHAPTER 22

THE MARKET STRUCTURES OF AMERICAN CAPITALISM

Scarce resources and unlimited wants, you will recall, are the foundation of economic science. The efficient management of scarce resources is the social goal of all economic processes. Furthermore, there are two major facets to the problem of achieving efficient resource use. The first, which we have examined in Parts Two and Three and, to some degree, in Part Four of this book, centers upon the full employment of available resources. The second aspect of the economizing problem—the one to which we now turn—has to do with allocating employed resources among alternative uses in the most efficient manner. Stated differently, Parts Two, Three, and Four focused upon the last of the Five Fundamental Questions posed in Chapter 2: "Can the economy achieve the full employment of its available resources?" Part Five deals with the first four questions: "Can the economy produce that output most desired by society?" "Will the production of that output be organized in the most efficient manner?" "Can the economy successfully distribute that output?" "Is the economy capable of maintaining efficiency in the use of its resources in the face of changes in the relative supplies of resources, changes in consumer tastes, and changes in technology?" All four of these questions obviously have an important bearing on the problem of achieving and maintaining an efficient allocation of available resources.

We are well aware that one of the major characteristics of capitalistic economies is their heavy reliance upon a price system as a means for allocating resources (Chapter 5). Our major topics of discussion, then, are prices and the price system. Specifically, our basic goal in the ensuing chapters is to acquire a comprehensive understanding of the operation and relative efficiency of the *price system* in allocating resources within the framework of American capitalism. As a means to achieving this primary goal, we also seek a thorough analysis of *individual prices* under a variety of contrasting market arrangements.

Using the product market as a point of reference, the present chapter defines and describes the various market arrangements we propose to examine. In the subsequent chapters in Part Five we review and apply our previous analysis of demand and supply, enhance our understanding of the demand side of the market, explore the production (supply) side of the market through a discussion of production costs—the major determinant of a firm's willingness to supply a given product—and examine in some detail the interaction of supply and demand under the various market arrangements described in the present chapter. Our attention will then shift to the functioning of prices in the resource market. Finally, the overall operation of the price system in American capitalism is evaluated.

FOUR BASIC MARKET MODELS

There is no such thing as an "average" or "typical" industry. Detailed examination of the business sector of American capitalism

reveals an almost infinite number of different market situations; no two industries are alike. At one extreme we may find a single producer completely dominating a particular market. At the other we discover thousands upon thousands—yes, even millions—of firms, each of which supplies a minute fraction of total or market output. Between these extremes lies an almost unlimited variety of market arrangements, most of which shade into one another.

Obviously, any attempt to examine each specific industry would be an endless and impossible task. There are simply too many of them. Hence, we seek a more realistic objective—to define and discuss several basic market structures, or models. In so doing we shall acquaint ourselves with the *general* way in which price and output are determined in most of the market types which characterize American capitalism.

But the use of a few market models as typifying most of American industries calls for a word or two of caution. First, the market models to be considered are necessarily abstractions. They are merely first approximations and as such do not purport to present a clear or complete picture of reality (see Chapter 1). In no case will the market models we are about to define provide a *detailed* explanation of the functioning of any specific firm. Yet they will do a reasonably good job of outlining the operation of many firms.

Furthermore, some firms and industries will not fall neatly within any of the market models we are about to outline; rather they will bear characteristics of two or more of these models. This means that the classification of a given firm or industry might entail an element of arbitrariness. This is the same type of problem which other scientists encounter. The botanist, for example, classifies all plants under three family groups—algae and fungi (thallophytes), moss plants (bryophytes), and vascular plants (tracheophytes). Yet many forms of plant life do not neatly fit into any one of these families but rather are borderline cases. So it is with the economist in classifying industries.

Finally, it is important to recognize at the outset that the economist's definitions of the basic market models do not coincide with those typically employed by businessmen and laymen. The definitions which follow are not of common-sense vintage. "Competition," for example, has a much more precise meaning to the economist than it does to the average businessman.

Economists envision four relatively distinct market situations. These are (1) pure competition, (2) pure monopoly, (3) monopolistic competition, and (4) oligopoly. The immediate task is to describe the major characteristics of each of these four market models. In doing so we shall use the seller's side of the product market as a point of reference. We shall see later that the same general models also are relevant for the buying side of the market.

Pure Competition

A purely competitive market has several distinct characteristics which set it off from other market structures.

1. A main feature of a purely competitive market is the presence of a large number of independently acting sellers, usually offering their products in a highly organized market.

2. Competitive firms are producing a standardized or virtually standardized product. Given price, the consumer is indifferent as to the seller from which he purchases. In a competitive market the products of firms B, C, D, E, and so forth are looked upon by the buyer as perfect substitutes for that of firm A.

3. In a purely competitive market *individual firms* exert no significant control over product price. This characteristic follows from the preceding two. Under pure competition each firm produces such a small fraction of total output that increasing or decreasing its output will have no perceptible influence upon total supply or, therefore,

product price. To illustrate, assume there are 10,000 competing firms, each of which is currently producing 100 units of output. Total supply is obviously 1,000,000. Now suppose one of these 10,000 firms cuts its output to 50 units. Will this affect price? No. And the reason is clear: This restriction of output by a single firm has an almost imperceptible impact on total supply—specifically, the total quantity supplied declines from 1,000,000 to 999,950. This is obviously not enough of a change in total supply to affect product price noticeably. In short, the individual competitive producer cannot adjust market price; he can only adjust to it.

Stated differently, pricewise the individual competitive producer is at the mercy of the market; to him product price is a given datum over which he exerts no influence. He can get the same price per unit for a large output as he can for a small output. To ask a price higher than the going market price would be futile. Consumers will not buy anything from firm A at a price of $2.10 when his 9,999 competitors are selling an identical and therefore perfect substitute product at $2 per unit. Conversely, because firm A can sell as much as it chooses at $2 per unit, there is no reason for it to charge some lower price, say, $1.95. Indeed, to do so would shrink its profits.

Finally, a subtle but highly important point: Although the *individual* firm cannot influence product price by varying its output, all firms in a competitive industry taken *as a group* can cause market price to vary. Should all 10,000 firms cut their outputs from 100 to 50 units, the total quantity supplied will decline from 1,000,000 to 500,000 units. This is most certainly a very significant change and can be expected to boost product price considerably. In brief, the individual firm cannot significantly influence price, but all firms as a group can. Although product price to an individual competitive seller is fixed, that price is free to move up or down in accordance with changes in either *total* demand or *total* supply.

4. New firms are free to enter and existing firms are free to leave purely competitive industries. In particular, no significant obstacles—legal, technical, financial, or other—exist to prohibit new firms from coming into being and selling their outputs in competitive markets.

5. Because purely competitive firms are producing a standardized product, there is virtually no room for *nonprice competition*, that is, competition on the basis of differences in product quality, advertising, or sales promotion. By definition each firm in a competitive market is producing an identical product. Hence, no firm has a quality edge over its rivals. Advertising by individual firms will be to no avail, because each firm's product has no distinguishing features to be advertised or promoted. Buyers will know that the products of all firms in the industry have the same features. Advertising has virtually no chance of convincing them otherwise.

What about examples? Really precise examples of pure competition are few and far between. If we neglect the government's farm program, agriculture provides us with most of the good illustrations. Thus, we find, for example, that there are literally millions of farmers producing class I corn—a product which is obviously standardized or uniform. Class I corn is class I corn! Each firm supplies such a small fraction of the total that no single farmer has any control over the market price for class I corn. He accepts the market price which exists in the highly organized market as a datum over which he has no influence; the individual farmer can sell as much or as little as he wants without affecting that price. He does not squander his financial resources on advertising or sales promotion. Farmer Jones knows that millions of other farmers are producing an identical product and that buyers are well aware of this. Hence, advertising would be futile, a sheer waste of time, effort, and money. The markets for wheat, cotton, barley, oats, the various types of livestock, and a good many

other farm staples also fit rather well into the competitive mold we have outlined.

Pure Monopoly

Now we turn to the other extreme of the spectrum. Pure monopoly provides us with the sharpest contrast to pure competition.

1. A pure, or absolute, monopolist is a one-firm industry. A single firm is the only producer of a given product; hence, the firm and the industry are synonymous.

2. It follows from this first characteristic that the monopolist's product is unique in the sense that there are no good, or close, substitutes available. From the buyer's point of view this means that he has no reasonable alternatives to which he can turn. He must buy the product from the monopolist or do without.

A question arises at this point: When are products "good" substitutes? There is no clear answer to this query. In a very broad sense all goods and services which compete for the consumer's dollar are substitutes. A down payment on a house may be a substitute for a new automobile. A two-week vacation may be a substitute for a television set. A pair of shoes may be a substitute for a new pair of slacks. A symphony concert may be a substitute for a fraternity dance. Yet in a more restricted sense of the term it is clear that some products and services simply do not have reasonably good substitutes. Candles and kerosene lamps are not good substitutes for electric lights. Other spices are poor substitutes for salt. Bus or train transportation may be a poor substitute for owning one's own automobile. To many, a symphony concert is no substitute at all for the Signa Phi Nothing formal.

In our discussion we shall employ the idea of substitution in the narrower sense of the term. Hence, we can agree that, as most consumers see it, there are no good substitutes for the water piped into our homes by the municipal water works or the electric power provided by the local power company. Digging a well or importing water from a neighboring community is not a realistic substitute for running water in one's home. And few would regard candles and kerosene lighting as acceptable substitutes for electric lights. In any event your television set will not run on kerosene. Up to World War II manufacturers whose products entailed the need for a strong but lightweight metal had little choice but to purchase aluminum from Alcoa; no competing aluminum producers were in existence prior to the war.

3. We have emphasized that the individual firm operating under pure competition exercises no influence over product price. This is so because he contributes only a negligible portion of total supply. In vivid contrast the pure monopolist exercises considerable control over price. And the reason is obvious: He is responsible for, and therefore controls, the total quantity supplied. By manipulating the amount supplied he can cause product price to change. If it is to his advantage, we can expect him to use his power in this way.

4. If, by definition, a pure monopolist has no immediate competitors, there must be a reason for this lack of competition. And there is: The existence of monopoly depends upon the existence of barriers to entry. Be they economic, technological, legal, or other, certain obstacles must exist to keep new competitors from coming into the industry if monopoly is to persist. Entry is not easy under conditions of pure monopoly; on the contrary, it is blocked. More of this in Chapter 27.

5. Depending upon the type of product or service involved, monopolists may or may not engage in extensive advertising and sales promotion activity. Local public utilities see no point in large expenditures for advertising; any local citizen who wants water, gas, and electric power and telephone service already knows from whom he must buy.

If pure monopolists do advertise, such advertising is likely to be of a public relations, or good-will, character rather than highly competitive, as is the advertising associated with, say, cigarettes, soap flakes, and beer.

Because they have no immediate rivals, monopolists, in trying to induce more people to buy their products, need not invoke the ours-is-better-than-theirs type of advertising which plagues radio, television, and otherwise scenic highways. Rather the monopolist's pitch is likely to be "We're really nice fellows and certainly wouldn't do anything to exploit other firms, our beloved employees, or, heaven forbid, consumers." Or the monopolist may be anxious for the public to recognize that at least 90 per cent of the firm's stock is held by destitute widows and orphans. Or, finally, the monopolist may be content simply to point out the technological progress for which the firm has been responsible.

Because pure monopoly is admittedly an extreme market model, we once again find relatively few precise illustrations. Most local public utilities are pure monopolists for the municipalities which they serve. Thus consumers either purchase their water, electricity, gas, and telephone service from the local utility or do without. Much the same may hold true of railway service in rural areas. On a nationwide basis American Telephone and Telegraph approximates a pure monopoly. Pullman Standard is the sole manufacturer of sleeping cars for the nation's railroads. Until World War II, Alcoa was a virtual monopolist in the production of most basic aluminum products; now it faces some competition from Reynolds and Kaiser. The United Shoe Machinery Company is the only manufacturer of certain equipment used in the production of shoes. IBM is the only source of certain calculating machines.

This is not to say that the pure monopolist will charge the highest price he can get for his product or service. Consumers may find it impossible to do without some amount of water and highly inconvenient to do without some quantity of electricity. But the amounts they purchase will vary inversely with price. If the prices of electricity and water were extremely high, the poor (but cheap) substitutes of kerosene lamps and digging a well would become relevant. And an extremely high price on office machines might induce firms to substitute bookkeepers for the machines.

Monopolistic Competition

As its name indicates, monopolistic competition stands between the extremes of pure competition and pure monopoly. It embraces characteristics of both, but for the most part it stands closer to pure competition.

1. As is the case with pure competition, monopolistic competition entails a large number of sellers acting independently. This does not mean that there need be 1,000, 10,000, or 1,000,000 firms in the industry; 30, 40, or 100 firms of more or less equal size may prevail. The important point is that each firm produces a fairly small share of the total output.

2. In contrast to pure competition, wherein the product is standardized, *product differentiation* is a major characteristic of monopolistically competitive industries. Product differentiation entails not only physical differences in the products of various producers or sellers in the industry, but also differences in such factors as the location and "snob appeal" of the seller's store, the packaging of the product, the cordiality of the firm's salespeople, the effectiveness of its advertising, the availability of credit, the company's reputation for servicing or "making good on" defective products, and so forth. The net result is that, although all firms in such an industry are producing the same general type or class of product, the particular product of each firm will have certain distinguishing features which set it off to some extent from those of other firms in the industry. In other words, the products of monopolistically competitive firms are close, but not perfect, substitutes. Just as the presence of a relatively large number of firms makes for competition, product differentiation gives rise to a measure of monopoly power. Indeed, monopolistic competition is sometimes called "the case of differentiation and large numbers."

3. Monopolistically competitive producers have a limited amount of control over product price. The control that exists depends essentially upon the degree of product differentiation and the number and proximity of competitors. The monopolistically competitive producer can raise his price modestly without having his sales fall to zero. Why? Because buyers recognize some differences between the products of various sellers. In the presence of product differentiation consumers are likely to have definite preferences for the products of specific sellers, and relatively small price increases by one firm will not cause all buyers to seek out the close substitute products of rival firms in that industry. Generally, when the rivals of a monopolistically competitive firm are many in number and in close proximity, each firm's control over price will be less than would otherwise be the case.

4. Entry into monopolistically competitive industries is typically easy. Nevertheless, entry may be a bit more difficult under monopolistically competitive conditions than when pure competition prevails. This is so because of product differentiation. A new firm must not only obtain the capital necessary to go into business but must also win clients away from existing firms. Securing a share of the market might entail considerable research and product development costs by the new firm to ensure that its product will have features which distinguish it from products already on the market. Similarly, considerable advertising outlays may be necessary to inform consumers of the existence of a new brand and to convince a number of them that it will be to their advantage to switch to the new product. In short, greater financial obstacles may face the potential newcomer under monopolistic competition than under pure competition.

5. Because products are differentiated, monopolistically competitive industries are ordinarily characterized by vigorous competition in other areas than price. Economic rivalry, as we have already noted, may be based not only on price, but also on product quality, advertising, and conditions or services associated with the sale of a product. Great emphasis is placed upon trademarks and brand names as means for convincing the consumer that the products of one's rivals are not as good substitutes for brand X as might first seem to be the case. Indeed, quality and advertising competition go hand in hand. Advertising proclaims and, if possible, magnifies real differences in product quality. While quality competition manipulates the firm's product, advertising and sales promotion attempt to manipulate the consumer.

A considerable number of industries approximate the conditions of monopolistic competition (see Table 28–1). At the manufacturing level the women's dress industry provides a good example; New York City and a few other large metropolitan areas are the locations of the large number of small manufacturers which constitute this industry. The shoe industry also has features which make it reasonably close to being monopolistically competitive. A good many types of retail trade, particularly in cities of any size, occur under conditions which approximate monopolistic competition. Most cities will contain a fairly large number of grocery stores, cleaning establishments, clothing shops, gasoline stations, restaurants, barber shops, and so forth, all of which are providing differentiated products and services.

Oligopoly

The remaining market model—oligopoly—is less precisely defined by economists than are the three market structures just discussed. Two reasons go far to explain this lack of preciseness. On the one hand, oligopoly includes a wider range of market structures than do the other three market models; in effect it embraces all the remaining market situations which do not fit the rather clearly defined market models of pure competition, monopolistic competition, and pure monopoly. On the other hand, as we shall discover in a moment, oligopoly has

certain characteristics which make it difficult to make hard and fast predictions about the behavior of oligopolistic industries.

1. The basic characteristic of oligopoly is "fewness." Oligopoly exists whenever a few firms dominate the market for a product. When we hear of the "Big Three," "Big Four," or "Big Six," we can be relatively certain that the industry is oligopolistic. This does not mean, of course, that the Big Three or Four necessarily share the total market. The dominant few may control, say, 70 or 80 per cent of a market, with a competitive fringe—a group of smaller firms—sharing the remainder.

When a few firms dominate a market, each of these firms will have a share of the market sufficiently large so that its actions and policies will have repercussions on the other firms. Because each firm supplies a large portion of the total industry output, actions taken by any one firm to improve its share of the market will directly and immediately affect its rivals. Hence, each firm must carefully weigh the expected reactions of its rivals when considering changes in product price, advertising outlays, product quality, and so forth. Such clear-cut *mutual interdependence* is peculiar to oligopoly. It is not present in pure competition or monopolistic competition because of the large numbers of firms involved. The pure monopolist has no need to worry about the reactions of rivals because he has none. Indeed, it can be said that oligopoly exists whenever the number of sellers is so few that the actions of one will have obvious and significant repercussions on the others. The firms of an oligopolistic industry are all in the same boat. If one rocks the boat, the others will be affected and in all probability will know the identity of the responsible firm and can retaliate.

2. Oligopolists may be producing virtually standardized products or differentiated products. Speaking very generally, those oligopolistic industries which are producing raw materials or semifinished goods are typically offering virtually uniform products to buyers. For example, most metal products—steel, copper, zinc, lead, and aluminum—along with cement, rayon, explosives, industrial alcohol, and some building materials, are virtually uniform goods produced in markets in which a few large firms are dominant. On the other hand, oligopolistic industries producing finished consumer goods are typically offering differentiated products to buyers. Automobiles, tires, petroleum products, soap, cigarettes, fountain pens, breakfast foods, aircraft, farm implements, plus a host of electrical appliances—refrigerators, radios, electric razors, and so forth—are produced by oligopolistic industries wherein product differentiation is considerable.[1]

3. An individual oligopolistic firm's control over price tends to be closely circumscribed by the mutual interdependence which characterizes such markets. Specifically, if a given firm lowers price, it will initially gain sales at the expense of its several rivals. However, these adversely affected rivals will have little choice but to retaliate to recover their shrinking shares of the market; they will match or even undercut the given firm to preserve their market share. The result may be a price war and possibly losses for all firms. Conversely, if a given oligopolist increases his price, rival firms stand to gain sales and profits by adhering to their present prices. That is, a price-boosting oligopolist runs the risk of "pricing himself out of the market" to the benefit of his rivals. For both these reasons there is a strong tendency for firms in oligopolist markets not to alter their prices very frequently.

The potentially adverse effects of price warring or pricing oneself out of the market can be largely avoided by a group of oligopolistic firms through the establishment of some sort of collusive agreement by which all firms either increase or decrease their prices as a group. Under such a collusive arrangement

[1] Illustrations are from Joe S. Bain, *Pricing, Distribution, and Employment*, rev. ed. (New York: Holt, Rinehart and Winston, Inc., 1953), pp. 273–274, 333.

the firms as a group can exert control over price in much the same way as can a pure monopolist.

4. Obstacles to entry are typically formidable in oligopolistic industries. The ownership of strategic patents or essential raw materials by existing firms may virtually prohibit the entry of new firms. Furthermore, the technology of heavy industry may demand that a new competitor be a large-scale producer from the outset, thus ruling out the possibility of a new firm's starting on a small-scale basis and in time expanding into a significant rival of existing firms. In addition, certain advantages of being established —that is, the mere fact that existing firms are producing well-known, highly advertised products and selling them through long-established marketing outlets—may work against the successful entrance of new firms into the industry. Yet, in contrast to pure monopoly, entry is not usually blocked completely in oligopolistic industries. For example, the relatively recent entry of Sylvania Electric into the electrical equipment industry presents a formidable rival for General Electric and Westinghouse. Entry into oligopolistic industries is very difficult, but by no means impossible.

5. Oligopolistic industries frequently channel considerable amounts of resources into advertising and other promotional activities. But the type and amount of advertising will depend upon whether or not the firms are producing standardized or differentiated products.

Advertising competition is likely to be strong among oligopolists who are producing differentiated products. For example, each major automobile producer or cigarette manufacturer will have a large budget for convincing the consumer that his particular product is in all ways superior to those of his rivals. Such advertising is likely to be of a highly competitive ours-is-better-than-theirs nature. On the other hand, public relations advertising is the bill of fare for oligopolists who are producing virtually standardized products. United States Steel does not try to convince the public that its sheet steel is superior to that produced by Republic, Bethlehem, or any of its other rivals. Skilled buyers who purchase the raw or fabricated steel products from these firms know that any differences are negligible. Hence, advertising in such industries is to keep the company in the public's eye, to convince the public that big business is an essential cog in the American economy, and so forth.

Quality competition may be intense under oligopoly, particularly so when product differentiation prevails. The research and design departments of many oligopolistic industries are becoming increasingly important over the years. Indeed, it is through research and rapid product development that the entry of potential rivals into the industry may be thwarted.

A good many American industries fall under the heading of oligopoly. As a matter of fact, most of those industries which come to mind when we think of big business are some form or another of oligopoly. In addition to the specific examples previously mentioned, Table 29–1 contains a list of industries which are oligopolistic.

Imperfect Competition

We shall find it convenient from time to time to distinguish between the characteristics of a purely competitive market and those of all other basic market arrangements—pure monopoly, monopolistic competition, and oligopoly. To facilitate such comparisons we shall employ "imperfect competition" as a generic term to designate all those market structures which deviate from the purely competitive market model.

THE BUYER'S SIDE OF THE MARKET

The preceding definitions of the four basic market models are couched in terms of the seller's side of the market. The same variety of market arrangements can and does exist on the buying or demand side. Here, however, the classification is almost exclusively

based on the number of buyers. For example, a very large number of purchasers obviously means pure competition on the buying side of the market. *Monopsony* describes the situation in which there is only one buyer. When a few buyers dominate a market, *oligopsony* exists. *Monopsonistic competition* designates the presence of a fairly large number of buyers.

With the selling and buying sides of the market placed together as in Figure 22–1, it is easy to recognize that an almost infinite number of seller-buyer relationships can exist. A few representative examples will help underscore this point. The public utilities field is usually characterized by pure monopoly on the selling side and pure competition on the buying side. The market for raw tobacco links a large number of purely competitive tobacco farmers on the selling side with a few large buyers–American, Liggett and Myers, Lorillard, and Reynolds–dominating the demand side. Where a strong union exists, specific labor markets often approximate *bilateral monopoly*–pure monopoly on one side and pure monopsony on the other. The local union is the "seller" of labor services, and the company is the single buyer. In the "original equipment" segment of the automobile tire market we have oligopsonistic buyers–General Motors, Ford, and Chrysler–linked with oligopolistic sellers–Goodyear, Firestone, U.S. Rubber, and B. F. Goodrich. A similar arrangement exists in the market for tin plate–a few large steel companies are the sole producers, and two large tin-can manufacturers are the major buyers. And so it goes. When all the hybrid cases falling between the four basic market models are taken into account, it is clear that the number of possible market arrangements can be and actually is extremely large.

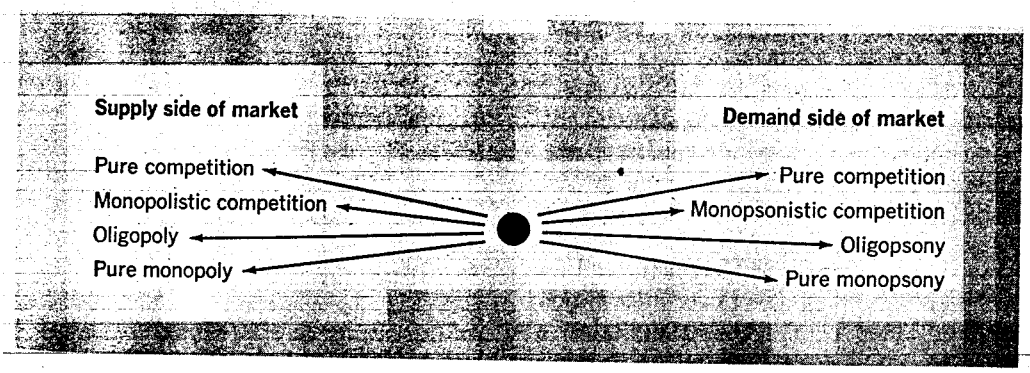
OTHER COMPETITIVE DIMENSIONS

It is important that we qualify and amend the foregoing definitions and explanations of the various market models in several ways.

Geographic Factor

In practice the competitiveness of an industry or firm is a geographic phenomenon. That is, the degree of competition in a particular industry depends upon the size of the market. Although a given city may have seventy or eighty grocery stores, a particular supermarket in a suburban area may, for all practical purposes, be competing only with

FIGURE 22–1. SOME BASIC MARKET RELATIONSHIPS.
The four basic market models are pertinent to both the selling and buying sides of markets; this suggests the existence of a very large number of selling-buying relationships.



three other chain stores and one or two independent corner groceries. Similarly, commercial banking appears to be highly competitive at first glance—after all, there are over 13,000 banks in our economy providing essentially identical services. But to the farmer in Podunk Center, Iowa, borrowing from the Chase National Bank in New York City or the Bank of America in California is out of the question. In negotiating a loan Farmer Jones will look to the Podunk Center State Bank or possibly one or two of the larger banks in a nearby city.

In short, before hastily labeling an industry as "competitive" or "monopolistic," we must be very sure that we have properly delineated the geographic boundaries of the market. The number of firms alone is not a sufficient criterion by which to gauge the competitiveness of an industry; proximity is important, too.

Interindustry Competition

It is important to recognize the significance of interindustry or interproduct competition. Although a few firms may be the only ones producing a specific product, they may face rather severe rivalry from other somewhat distinct products. Illustrations of such interproduct competition are numerous. The aluminum industry is a strong oligopoly with three firms—Alcoa, Reynolds, and Kaiser—dominating the market. Buyers who must use aluminum have no choice but to do business with one of these three industrial giants. However, in many cases other materials—steel, copper, and even wood or plastics—are suitable substitutes for aluminum. Hence, steel competes with aluminum in the manufacturing of many automobile parts. Aluminum and copper hotly contest the market for transmission lines. Aluminum battles both steel and wood in the construction field. Pricewise, these comments add up to the fact that the control over price which the Big Three of the aluminum industry possesses is subject to limitations dictated by the prices of distinct but nevertheless competing products. Another example: The Big Two of the tin-can industry—American Can and Continental Can—dominate over 80 per cent of their market. From within the industry they face little serious competition. But from without they face the competition of glass, plastic, and paper containers.

Nonprice Competition

This is a convenient juncture at which to restate a point emphasized earlier: Competition is something more than the willingness and ability to cut prices. Competition in other areas than price may be vigorous and important in an industry. Variations in product quality, advertising and promotional activities, and so forth are important elements of competition which may supplement or, in some cases, supplant price competition.

Technological Advance

The previous explanations of the four basic market models tend to classify the various markets at some particular *point* in time. Hence, they neglect an important competitive force which only functions over a *period* of time. That competitive force is technological advance. The development of new products and new techniques of production can result in new competition for producers who previously enjoyed a considerable degree of monopoly power. Thus the leading proponent of the role of technological advance as a competitive force has argued that[2]

> . . . in capitalist reality . . . it is . . . competition from the new commodity, the new technology, the new source of supply, the new type of organization (the largest-scale unit of control for instance)—competition which commands a decisive cost or quality advantage and which strikes not at the margins of the profits and the

[2] Joseph A. Schumpeter, *Capitalism, Socialism, and Democracy*, 3d ed. (New York: Harper & Row, Publishers, Incorporated, 1950), pp. 84–85.

outputs of the existing firms but at their foundations and their very lives. This kind of competition is . . . so . . . important that it becomes a matter of comparative indifference whether competition in the ordinary sense functions more or less promptly; the powerful lever that in the long run expands output and brings down prices is in any case made of other stuff.

. . . that competition of the kind we now have in mind acts not only when in being but also when it is merely an ever-present threat. It disciplines before it attacks. The businessman feels himself to be in a competitive situation even if he is alone in his field. . . . In many cases, though not in all, this will in the long run enforce behavior very similar to the perfectly competitive pattern.

An example or two may help to underscore this point. For over a decade a single firm enjoyed the position of a pure monopolist in the production of rayon. Its profits, enormous by any standard, were the results of the successful competition this innovation provided for other textiles. But more recently the development of acetates, nylon, acrilon, and other "miracle fibers" has in turn provided considerable competition for rayon.[3] In a similar manner the rapid development of the dehydrated and quick-frozen food industries during World War II has permitted an intensification of the competition which paper, fiber, and plastic containers provides for the Big Two of the tin-can industry.

DETERMINANTS OF MARKET STRUCTURE

Agriculture is an almost purely competitive industry. The clothing industry fits roughly into the mold of monopolistic competition. The steel and automobile industries are obviously oligopolistic. American Telephone and Telegraph nationally, and public utilities locally, approximate pure monopolies. What forces explain the emergence of these different market structures? What factors have caused agriculture to remain highly competitive and the automobile industry, spiced in its infancy with seventy-odd producers, now to be a tight oligopoly dominated by the Big Three? Although there exists no short, easy answer to these questions, we can put our fingers on some of the more important forces which historically have played significant roles in determining the competitive structures of the various American industries. Generally speaking, such factors as (1) legislation and government policy, (2) the policies and practices of business firms, (3) technological considerations, and (4) institutions and characteristics inherent in the capitalistic ideology go far to explain the variety of market structures which characterizes American capitalism.

Legislation and Government Policy

Government has promoted both monopoly and competition. By issuing *exclusive franchises* to so-called natural monopolies (for example, public utilities), government has purposely created many pure monopolies in industries which might otherwise have attained some degree of competition. Federal government commissions—the Interstate Commerce Commission, Civil Aeronautics Board, and Federal Communications Commission—play the major role in determining the degree of competition in the land and air transportation, radio, and television industries. Similarly, *patent laws* have promoted monopoly by giving innovating firms the exclusive right to manufacture a product for extended periods of time. *High tariffs* have promoted and preserved monopoly power in many domestic industries. On the other hand, there is but little doubt that the liberal Homestead Act of 1862 provided a competitive base for American agriculture. *Antitrust legislation*—the Sherman and Clayton Acts—is explicitly designed to curb the abuses of monopoly power.

We find here seemingly inconsistent government policies; but this inconsistency can be at least partly explained. Although government has pursued a generally anti-

[3] A. D. H. Kaplan, *Big Enterprise in a Competitive System* (Washington: The Brookings Institution, 1954), p. 193.

monopolistic social policy, it simultaneously seeks other social objectives. One of these goals is the promotion of technological advance—an aim which patent legislation tends to promote. And in the case of public utilities, competition has simply not functioned effectively; here government has condoned and promoted monopoly, but has then provided regulatory commissions designed to prevent the abuse of this government-sponsored monopoly power.

Business Policies and Practices

The practices and policies pursued by various firms and industries can also be critical in determining the structure of industry. In some industries mergers, consolidations, and the development of holding companies have pushed in the direction of oligopoly or monopoly. The evolution of the corporate form of business enterprise and collusive practices between legally independent firms have played a similar role. In other industries cutthroat competition has resulted in some firms driving others from existence, thereby lowering the number of competitors in the industry. In still other instances firms have acquired ownership or control over vital raw materials so as to eliminate present rivals and destroy the possibility of new firms coming into being. These practices and developments, however, have occurred unevenly among various industries, causing some to move in the direction of monopoly and others to remain rather highly competitive.

Technology

Technology has undoubtedly become an increasingly important determinant of industrial structure. In a good many industries technology has developed to the point where the existence of large industrial giants is necessary if efficient low-cost production is to be achieved. Technology has given rise to economies of mass production which only large producers can realize. This means that, given consumer demand, efficient production necessitates the existence of a small number of large producers rather than a large number of small producers. It is thus that technological advance has "forced" the market structure of many "heavy" industries—for example, the automobile, steel, and aluminum industries—in the direction of oligopoly. Economists differ in evaluating the extent to which technological factors require bigness; we shall examine the conflicting views in greater detail in Chapter 34.

In some industries technological advance has worked toward the same end but in a somewhat different manner. Superior research on product development has permitted some firms to outgrow and often eliminate less progressive rivals. Furthermore, this tendency is frequently cumulative; by gaining a larger share of the market through its superior research, a firm realizes the financial rewards that facilitate a widening of the technological advantages which it possesses over its rivals.

Capitalistic Institutions

We must be reminded that the institutions of American capitalism are permissive of the concentration of economic power and the development of oligopoly and monopoly. The relatively free, individualistic economic environment of the economy is a fertile ground for the most efficient, the most courageous, the most fortunate, or the most crafty producer to conquer his rivals in an effort to free himself from the regulatory powers of competition. Freedom of contract, private property, and inheritance rights have also contributed to the concentration of economic power. And, too, the business cycle has probably abetted the tendency toward monopoly. As one scholar puts it:[4]

> Weaklings may still fail, and disappear, especially in more difficult times. Good times make it easy to finance consolidations, and

[4] John K. Galbraith, *American Capitalism*, rev. ed. (Boston: Houghton Mifflin Company, 1956), p. 35.

tempting for the strong company to expand and the weak to sell out. Thus, both adversity and prosperity work alike to reduce the number of firms in an industry.

SUMMARY

1. American industry is characterized by differing degrees of competition. The market models of **a.** pure competition, **b.** pure monopoly, **c.** monopolistic competition, and **d.** oligopoly are classifications into which most industries can be fitted with reasonable accuracy. These market models, however, are merely first approximations of reality.

2. Table 22–1 provides a convenient summary of the major characteristics of these four market models.

3. Similar market classifications, based essentially upon numbers, are applied to the buying, or demand, side of the market.

4. The economist's definitions of the four market models focus attention upon **a.** the number of firms, **b.** the degree of product differentiation, and **c.** the ease or difficulty encountered by new firms in entering the industry. However, certain other important factors which have a bearing upon the competitive nature of an industry must also be considered:

a. In practice any meaningful description of the market structure of an industry requires

TABLE 22–1. CHARACTERISTICS OF THE FOUR BASIC MARKET MODELS

Characteristic	Market Model			
	Pure competition	Monopolistic competition	Oligopoly	Pure monopoly
Number of firms	A very large number	Many	Few	One
Type of product	Standardized	Differentiated	Standardized or differentiated	Unique; no close substitutes
Control over price	None	Some, but within rather narrow limits	Circumscribed by mutual interdependence; considerable with collusion	Considerable
Conditions of entry	Very easy, no obstacles	Relatively easy	Significant obstacles present	Blocked
Nonprice competition	None	Considerable emphasis on advertising, brand names, trademarks, etc.	Typically a great deal, particularly with product differentiation	Mostly public relations advertising
Example	Agriculture	Retail trade, dresses, shoes	Steel, automobiles, farm implements, meat packing, many household appliances	AT&T, local utilities

a proper definition of the geographic limits of the market.

b. Interindustry or interproduct competition is a significant force in many markets which might otherwise appear to be lacking in competition.

c. Nonprice competition may be an important supplement to price competition.

d. Technological advance, working as a competitive force through time, often undermines existing industries characterized by strong monopolistic elements.

5. Legislation, government policies, research and technological development, industry practices, and a variety of other factors have all played significant roles in determining the present structure of American industry.